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In light of the prospective increase in the college population, the report gives recommendations to accomplish three goals for higher education in New York State. To meet the needs of the next 20 to 25 years, these goals are to assure educational opportunities to those qualified for college study; to provide the undergraduate, graduate, and professional training and research facilities necessary for the continued development of the State as a leading business, industrial, scientific, and cultural center; and to contribute a proper share of trained personnel to meet the Nation's needs for education, health, and welfare services.

The recommendations are distilled from staff papers, consultants' reports, statistical material, and other documents not included in the report. Emphasis in the recommendations is on administrative machinery and major policy considerations rather than on specific procedures or devices.

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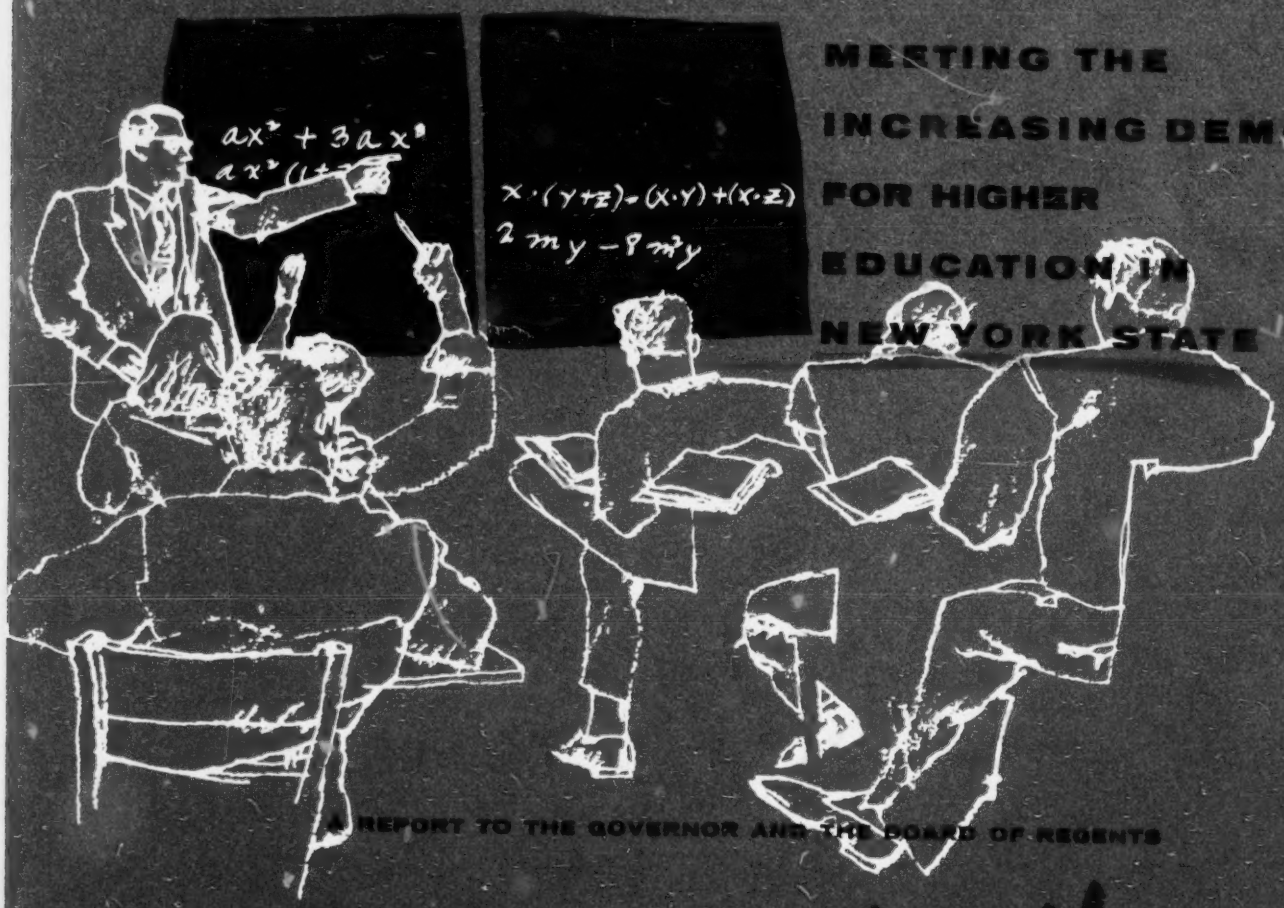

MEETING THE INCREASING DEMAND FOR HIGHER EDUCATION IN NEW YORK STATE

A REPORT TO THE GOVERNOR AND THE BOARD OF REGENTS

ED000684

MEETING THE INCREASING DEMAND FOR HIGHER EDUCATION IN NEW YORK STATE

A REPORT TO THE GOVERNOR AND THE BOARD OF REGENTS

COMMITTEE ON HIGHER EDUCATION:

Marion B. Folsom

John W. Gardner

Henry T. Heald
(CHAIRMAN)

DIRECTOR OF STUDIES:

Sidney G. Tickton

NOVEMBER, 1960

Additional copies of this report are available from the Board of Regents, State Education Department, Albany, New York.

Letter of Transmittal

NOVEMBER 15, 1960

To His Excellency, The Governor of the State of New York; and to The Board of Regents of the University of the State of New York:

On December 21, 1959 you requested us to review the higher education needs and facilities in New York State and to make recommendations on the steps that the State could take to:

(1) assure educational opportunities to those qualified for college study;

(2) provide the undergraduate, graduate and professional training and research facilities necessary for the continued development of the State as a leading business, industrial, scientific and cultural center; and

(3) contribute its proper share of trained personnel to meet the nation's needs for education, health and welfare services.

The recommendations in this Report are designed to accomplish these objectives. They are the result of an intensive study of a broad range of problems facing higher education in New York State, projected into the future in the light of the prospective rapid increase in the college-going population that can be expected by 1965, 1970, and in the generation ahead. They are supported by a series of staff papers, consultants' reports, statistical materials and other documents, copies of which are not being printed at this time but are being submitted to the Commissioner of Education in typewritten form for such future distribution as he may deem desirable.

We did not attempt, however, to provide a detailed prescription for

the expansion and support of the State University and private higher education in New York State. This is the responsibility of the trustees and officials of the State University and the private institutions themselves. Instead we have described the needs and responsibilities of higher education in New York State during the next twenty to twenty-five years and have recommended the broad outline of a plan and structure which will make it possible for these needs to be met. Thus there is emphasis on administrative machinery and major policy considerations rather than on the specific procedures or devices to accomplish the objectives we have in mind.

During the course of our study we were fortunate to obtain the professional assistance of Sidney G. Tickton as Director of Studies, and the advice and consulting services of many leading educators, whose names are listed at the end of this Report. The Committee is truly indebted to them. We use this opportunity to thank them publicly and to express our appreciation for their helpful assistance. We wish also to thank the many other persons, too numerous to list, who provided us with helpful information.

We also appreciate the close cooperation given us by the officials of the State Education Department, the State University of New York, and the Board of Higher Education of the City of New York. They provided us with a wealth of factual information, discussed with us frankly the character of their responsibilities for various aspects of higher education in New York State, and explored with us alternative courses of action for the future. Without their sincere cooperation we could not have completed our assignment in the time at our disposal.

The problems of higher education have many facets and our study covered many areas. Excluded, however, were problems concerning college and university libraries. The Commissioner of Education appointed an Advisory Committee on Reference and Research Library Resources in March, 1960, and this committee, we are informed, will make a series of recommendations this year on the future development of an adequate system of libraries throughout the State, including those at colleges and universities.

Respectfully submitted,

Marion B. Folsom
John W. Gardner
Henry T. Heald (CHAIRMAN)

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I INTRODUCTION

In the generation ahead, barring war or other national disaster, New York State and the nation can expect to witness a greatly increased demand for admission to colleges and universities. There will be more young people qualified for post high school academic and technical education; and more of these young people can be expected to have definite college ambitions.

The increased demand for college and university admittance will not be evidenced in its full magnitude, however, in one year, five years, or even ten. It will begin to grow within a year and will skyrocket shortly thereafter continuing upward for ten, twenty, twenty-five years and, in fact, as far as we can see in the future. It will be so large as to make everything we have been doing in higher education until now seem insignificant in retrospect. It is the net result of three factors which have developed in our generation and can be expected to continue for many years to come. They are:

(1) a postwar birth rate which has been at high levels throughout the past fifteen years;

(2) an increasing desire to go to college, not necessarily for four years or full time, but certainly for a substantial period beyond high school; and

(3) the increased capacity of many young people to go to college as a result of the higher incomes of their parents.

Against this extraordinary background, it is critical for planning purposes to make projections of potential college and university enrollments

for at least twenty-five years into the future. Forecasts to 1970 only, commonly made in the reports we have studied, fail to pose the real magnitude of the problem faced by higher education today. This is because children now being born will not start college, generally, for eighteen years and will not finish, generally, until twenty-one years from now; some may not finish until twenty-five years or more from the present time.

There is greater uncertainty, obviously, in the projections for distant years than for the near ones. Nevertheless, it is impossible to make realistic plans unless there is some indication of the full potential ahead.

The adequacy of higher education, public and private, in New York State during the next twenty-five years will depend principally on:

(1) the number of young people of college age demanding facilities for higher education;
(2) the goals that the State sets for higher education policy;
(3) the need for trained manpower;
(4) the increase in productivity of the New York State economy;
(5) the amount of expenditures for higher education that will be financed out of State and local taxes; and
(6) federal aid to higher education, if any.

What is the outlook to 1965, 1970, 1980 and 1985 for these factors? And, what should we do now in New York State, to make sure that an adequate system of higher education is ready for our young people when it is needed, and where it is needed?

Let us look at the figures and the implications for policy formulation in the future.

II OUTLOOK FOR ENROLLMENTS

The number of people in New York State wishing to go to colleges and universities full time or part time who are able to do post-high school work can be expected to reach 646,000 by 1965, 804,000 by 1970 and 1,270,000 by 1985. Compared to 1959 enrollments of 401,000, this will be a 61 per cent increase in 6 years, a doubling by 1970 and a tripling by 1985. The figures are in the table that follows:

Table A **Estimated Enrollments in Colleges and Universities in New York State**

Fall of Year	Number		Index for the Total (1959 = 100)
	Full-time Only	Full-time and Part-time	
1959 (actual)	205,000	401,000	100
1960	217,000	425,000	106
1965	323,000	646,000	161
1970	402,000	804,000	200
1975	481,000	962,000	240
1980	551,000	1,102,000	275
1985	635,000	1,270,000	317

Five main factors underlie this expected growth in the number of college students. They are:

(1) an increasing number of young people of college age;

(2) an increasing proportion of young people graduating from high school;

(3) an increasing percentage of high school graduates going to college full time;
(4) an increasing number of part-time enrollments; and
(5) a declining percentage of undergraduate students from New York State going to colleges and universities outside the State.

These five factors are described further in the Statistical Appendix. They apply not only to New York State but also, in varying degree, to Pennsylvania, California, Massachusetts, and every other industrial state in the country. They are being recklessly underestimated by many who are too timid to look the long-run college admissions problem in the eye. The fact is that going to college is rapidly becoming as important to many individuals, and as necessary for the welfare of our country, as going to high school became during the period between the two World Wars.

And going to college is economically possible, too, for a large proportion of our population. If business continues at prosperous levels in the future and personal incomes remain high, a large proportion of parents can be expected to find ways to send their children to college despite the cost involved. On the other hand, if business is at lower levels, there will be substantial unemployment among unskilled young adults. The chances are that many would enroll in colleges and universities.

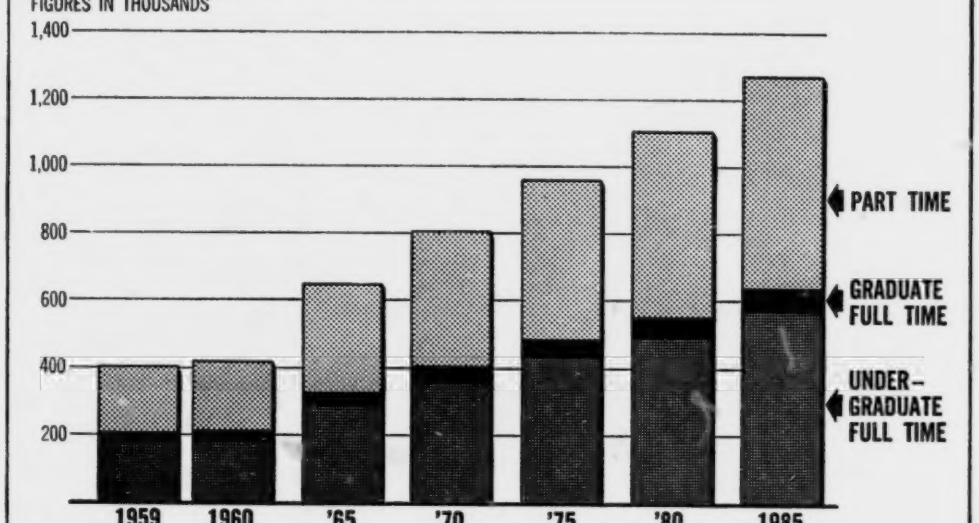
Assuming that enrollments grow, where will the increases be—in public or private institutions?

In the past, it has been the practice in New York State to permit private colleges and universities to enroll all the students they could handle, and to limit the expansion of public institutions to the balance. For the last twenty years, for example, private institutions have enrolled about 60 per cent of the students, with the public colleges enrolling the remaining 40 per cent. On a conservative basis, we estimate there will be a relative decline in private enrollments over the next twenty-five years because:

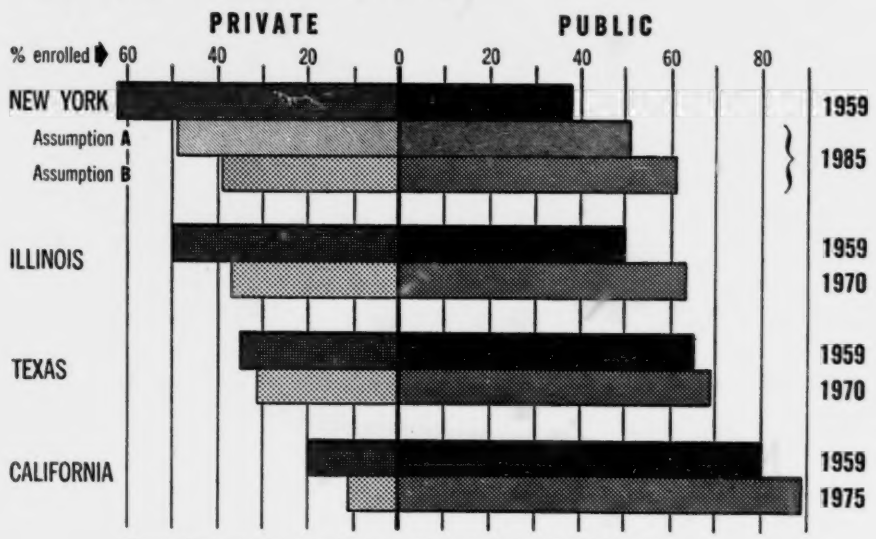
(1) Most of the leading private colleges and universities are developing a more selective admissions policy. Some are already finding it necessary to turn away high school students with good academic records.
(2) Many private colleges and universities will be unable to finance a rapid expansion at a time when faculty and other costs are rising sharply. Nearly all are operating at substantial deficits which have to be covered each year by gifts from corporations, alumni, and individual friends of the college. With present methods of operation,

Enrollments skyrocketing

STUDENTS IN NEW YORK STATE
FIGURES IN THOUSANDS



Heavier burden for public colleges



*New York Assumption **A** estimates 150 per cent increase in private enrollments by 1985.
New York Assumption **B estimates 100 per cent increase in private enrollments by 1985.

increased enrollments will result in even greater deficits and an even greater need for gifts. These gifts can be expanded, but not rapidly enough to permit large increases in enrollments.

Government aid would be a solution, but if it were great enough to permit private institutions to continue to enroll 60 per cent of the students, it would ultimately amount to hundreds of millions of dollars a year, and would be so large as to change fundamentally the financial and educational characteristics of the private institutions. They would no longer be "private."

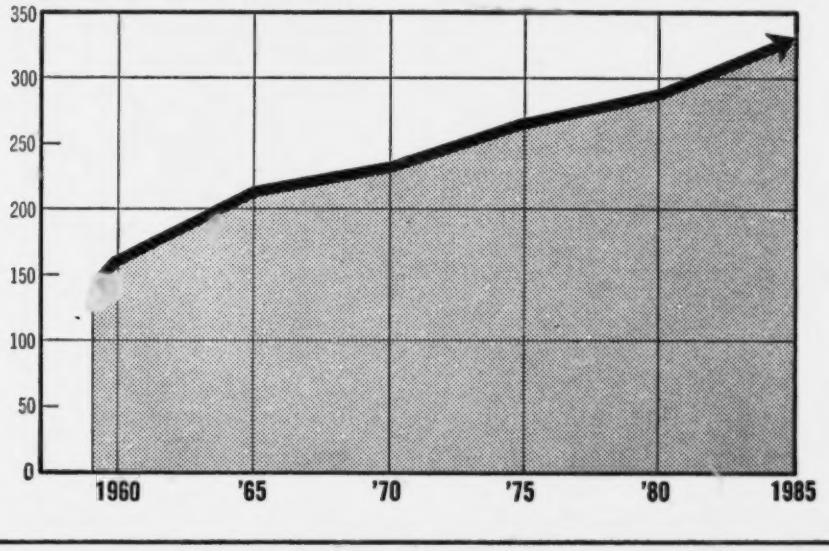
A conservative estimate is that "private" enrollments will drop from the present 60 per cent to something between 40 per cent and 50 per cent (probably closer to 40 per cent) of the total by 1985. This implies a much heavier burden for "public" institutions in New York State, although even then their share of the total would be smaller than in a number of other large states. Some examples are in the following table:

Table B **Percentage of Students Enrolled in Public Colleges and Universities**

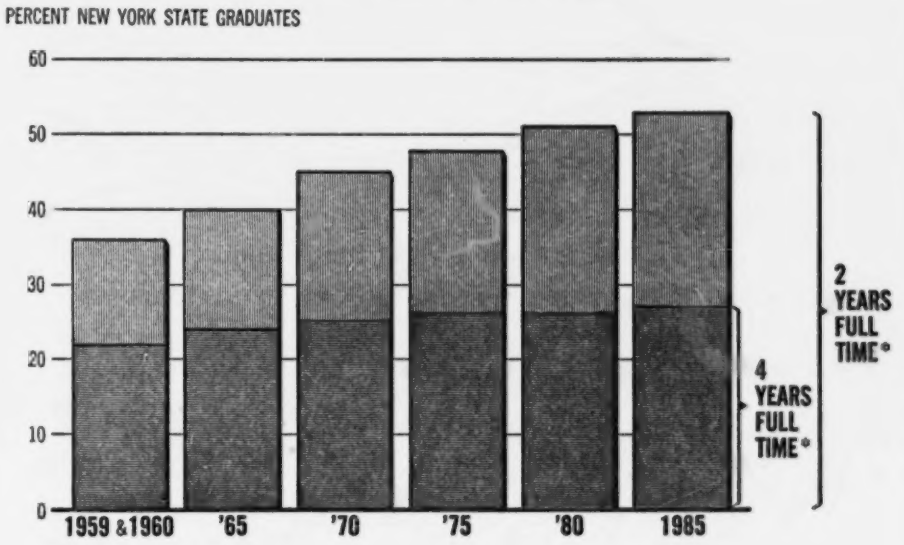
State	Category of Enrollment	Percentage in Public Colleges and Universities	
		1959	Future Years*
California	Full-time	80%	89% (1975)
Illinois	Full-time and part-time	50	63 (1970)
Michigan	Full-time equivalent	77	Above 77 (1970)
Minnesota	Full-time	70	Above 70 (1970)
Texas	Full-time and part-time	65	69 (1970)
New York	Full-time and part-time	38	50-60 (1985)

*Percentages estimated by officials in the various states.

More high school graduates



Percent of high school graduates in college*



*Part-time students are in addition.

III GOALS WE SHOULD STRIVE FOR

The kind of education we give our children in colleges and universities in the generation ahead depends on the goals we set now and during the next few years. What do we want in higher education? What do we need? What does our position in the world demand?

No one can answer these questions exactly, but we do know that within a relatively few years — say, since the birth of many children still too young to enter college — higher education in America has been propelled into a distinctly new era by a combination of powerful worldwide forces. There has been an accelerated pace of human events, an explosion of knowledge, a surge of population, an almost unbelievable breakthrough in science and technology, and, possibly more important than any other force, a menacing international contest between democracy and communism.

It will not be enough, therefore, if our colleges and universities meet the potental increases in enrollments merely by doing on a larger scale what they have already been doing for many years in their classrooms and laboratories. They will have to do it better than ever before, much better — enough better to meet the fantastic demands the future may be expected to impose on the American people.

Many of the men and women entering colleges and universities this year, next year, and in the generation ahead will live a part of their lives as adults in the 21st century. They must be prepared to meet its most strenuous tests. Even the best models of education from the past will not be good enough for them. This is because we have been producing what Walter Lippmann calls an educational deficit. A few years before the

Russian sputnik illuminated our educational skies he said about our educational effort:

I do not mean we are doing a little too little. I mean we are doing much too little . . . Our educational effort . . . has not yet been raised to the plateau of the age we live in. We must measure . . . it not by what would be easy and convenient to do but by what it is necessary to do in order that the nation may survive and flourish. We have learned that we are quite rich enough to defend ourselves, whatever the cost. We must now learn that we are quite rich enough to educate ourselves as we need to be educated.

Over the years the people of the State of New York have been rich enough, but they have not given enough thought, perhaps, to educating their young people as they should be educated. Much more will have to be done in the future than has been done in the past. There should be goals — high goals; and they should include:

(1) wide availability and diversity of educational opportunity to students with various intellectual capabilities and of all income classes in the State;

(2) a strong system of public as well as private education, including strong public universities; and

(3) the attainment of excellence in academic instruction and research in all the institutions of higher learning in the State.

The recommendations in this report indicate where progress may be made toward the achievement of these goals. But this will not be enough. What also will be required is a new attitude toward *public* higher education, a new state of mind, a new desire to put some real meaning into the motto inscribed on the seal of the State University of New York which says, "Let each become all he is capable of being." If we resolve to be guided by those words, public higher education in New York will cease to be a limping and apologetic enterprise and will achieve the spirit and style which characterize the nation's great public institutions.

IV DO WE NEED THE TRAINED MANPOWER?

A question that never fails to arise when the possible doubling or tripling of college enrollments in New York State is mentioned is, "Does the country or the State need so much highly trained manpower?"

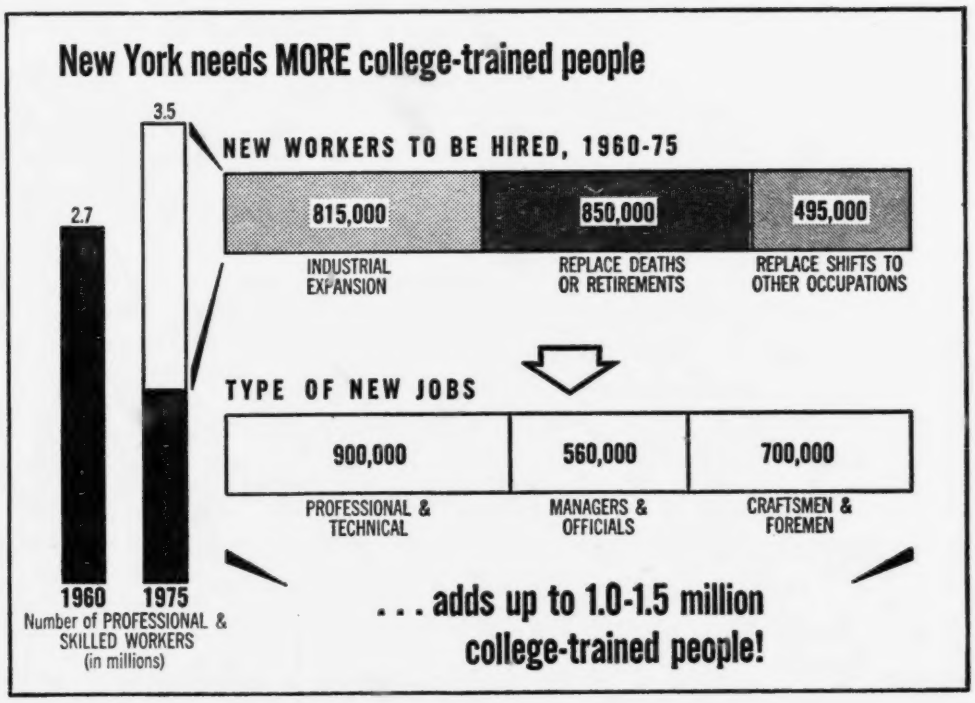
Estimates to 1975 (see Statistical Appendix) indicate that the demand for college-trained personnel will continue to grow. New York's percentage of the nationwide total may decline slightly, but according to the United States Department of Labor, New York will have to educate over one million workers during the next fifteen years to meet the needs for professional and technical manpower alone, and an additional number for the large and growing fields of management and technical sales.

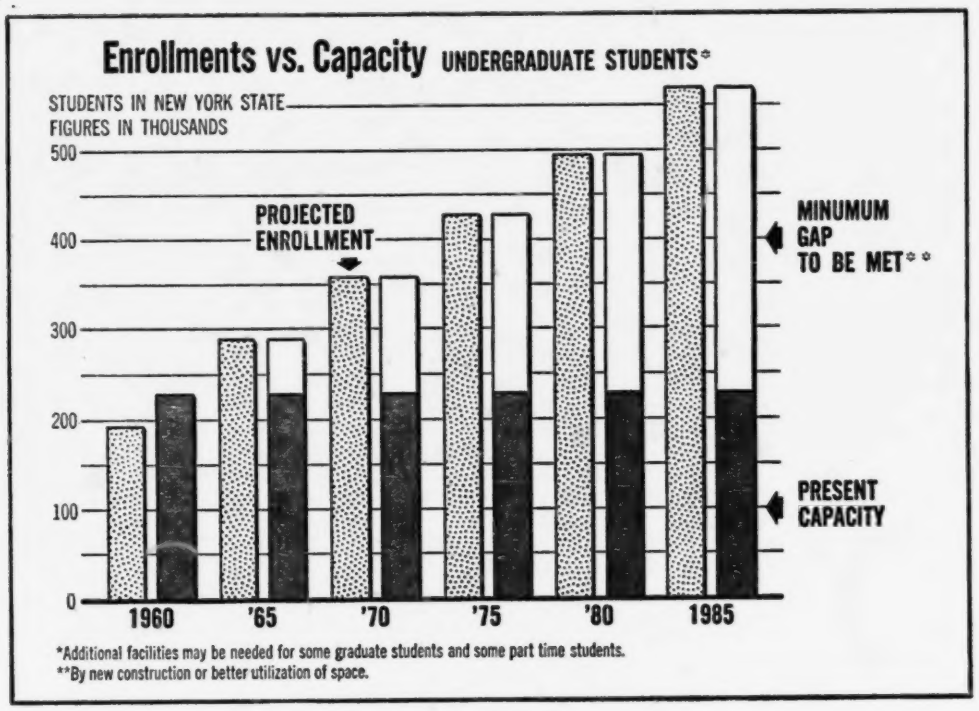
A comparable estimate was made in a report released a few months ago by the New York State Industrial Commissioner, in response to a request by the 1959 New York State Legislature. He said (referring to 1957-1970):

... there will be over 600,000 job vacancies to be filled by professionally qualified persons ... The greatest needs will be for teachers (150,000) and engineers (110,000).

He also said:

Large needs will arise for engineering and physical science technicians, electronic technicians, and medical and dental technicians.


New York needs MORE college-trained people
3.5
2.7
NEW WORKERS TO BE HIRED, 1960-75
815,000
850,000
495,000
INDUSTRIAL EXPANSION
REPLACE DEATHS OR RETIREMENTS
REPLACE SHIFTS TO OTHER OCCUPATIONS
TYPE OF NEW JOBS
900,000
560,000
700,000
PROFESSIONAL & TECHNICAL
MANAGERS & OFFICIALS
CRAFTSMEN & FOREMEN
1960
1975
Number of PROFESSIONAL & SKILLED WORKERS (in millions)
. . . adds up to 1.0-1.5 million college-trained people!


Enrollments vs. Capacity UNDERGRADUATE STUDENTS*
STUDENTS IN NEW YORK STATE
FIGURES IN THOUSANDS
500
400
300
200
100
0
PROJECTED ENROLLMENT
MINUMUM GAP TO BE MET**
PRESENT CAPACITY
1960
'65
'70
'75
'80
1985
*Additional facilities may be needed for some graduate students and some part time students.
**By new construction or better utilization of space.

And also:

About 600,000 persons must become qualified craftsmen if the State's need for skilled workers during the 1960's is to be satisfied.

Although the estimates of the United States Department of Labor and the New York State Industrial Commissioner are subject to a number of qualifications, we believe them to be conservative. There can be no doubt but that the decades of the 1960's and 1970's will witness an increasing demand for people with community-college, four-year-college, graduate- and professional-school backgrounds. The overwhelming evidence is that our society is becoming ever more dependent on individuals who have acquired a high order of formal education and training. This is expressed not only in constantly increasing demands for individuals trained in science and technology, but also for specialists trained in management, the social sciences, and languages.

V WHERE WILL THE MONEY COME FROM?

Ten years, fifteen years, twenty-five years from now, the people of New York State will have a greatly increased personal income out of which to pay for higher education. If a high level of employment and present price levels are assumed, the potential gross income of individuals in New York State in 1975 can be expected to be about $90 billion, a 100 per cent increase over the $45 billion in 1959 (see Statistical Appendix).

A gross personal income of $90 billion in New York State in 1975 is equivalent to the gross personal income of the entire United States 20 years ago. We, as a State, can achieve this income because day after day the whole nation is bringing to bear on the expansion of industrial productivity all the ingenuity, the inventiveness, and the ability of our people. It will be accomplished (in the absence of war) by the greatest concentration of research and development on the problems of mankind that the world has ever known.

Against this tremendous volume of personal income, how much will be involved for higher education?

New York State spent $269 millions in 1958 for teaching the students in all public and private institutions of higher education in the State (including administrative and operating expenses allocable to teaching functions but excluding contract research, nonteaching activities and living accommodations — see Statistical Appendix). Similar expenditures for the school year beginning in September, 1960, can reasonably be expected to be about $300 million; and on this basis will stand at two-thirds of one per cent, roughly, of the total gross personal income of the people of New York State.

By 1975 higher education teaching costs (as defined above) of $900 to $1,200 million (compared to the $300 million now) are well within probability — an increase of 200 to 300 per cent in costs at a time when enrollments are increasing by 125 to 150 per cent. The exact amount will depend upon the future attitude of the people of New York State with respect to higher education. It will reflect, also, a rise in the level of faculty salaries. With the growth in enrollments, the reduction in the number of students exported to other states, and the increased complexity of our educational needs, more will have to be spent for highly qualified faculty in the future than in the past. Salaries have been too low for many years, with top-grade faculty members substantially subsidizing, in effect, the education of their students.

Can we afford greater expenditures for college and university education? Certainly we can. Although we could afford more, we have been spending less *relatively* on higher education than many other comparable states—see Statistical Appendix. Our greatly increased gross personal income will enable us to allocate increased funds for college and university expenditures, as follows:

We estimate the increase in gross personal income in this State between 1959 and 1975 will be	*$45 billion*
The increase in higher education teaching costs (including overhead but excluding research, etc., as above) in the same period can be estimated at	*$600 to $900 million*
The increase in such costs will then be	1⅓ *to* 2 *per cent of the* increase *in personal income*
The total of such costs will then be	1 *to* 1⅓ *per cent of the total personal income in the State (compared to ⅔ of 1 per cent now)*

Similar percentage relationships could be expected if the figures were projected to 1980 and 1985.

There are those who feel that by 1975 we will certainly have federal aid for education — at the college and university level as well as for elementary and secondary schools, and that this will make the financing even easier. But for this report we need not estimate the amount of federal aid New York State might obtain a decade or two hence. The fact is that increased expenditures for higher education are well within the capacity of New York State's residents. However, as they prepare to meet them, State responsibilities for higher education should be realigned, private higher education should be strengthened, and the State University system should be expanded — all to the end that educational facilities and well-trained faculties are made available to every type of student, at every income level, and to meet all reasonable academic and technical needs.

VI REALIGNING HIGHER EDUCATION RESPONSIBILITIES

To realign the responsibilities in an educational system that has grown up over 175 years will take a lot of doing, but it must be done.

As of now, the machinery for the control and operation of higher education in New York State is one of the most complex in the whole country. It is unique in many respects — but it is not equipped to meet the needs of the future.

At the top there is "The University of the State of New York," the supercoordinating body — not a university in the usual sense of the word, but a policy-forming and administrative body. It is governed by the Board of Regents, elected by the Legislature, who preside over all the elementary, secondary, and higher education institutions approved by the State. All colleges and universities incorporated in the State, *both public and private*, are "members" of the University of the State of New York.

The administrative functions of the Board of Regents are handled by the State Education Department. This is headed by the Commissioner of Education, who is also President of the University of the State of New York. Higher education is only a small part, however, of his heavy responsibilities for the supervision of all educational activities in the State.

Next and separate, but under the general supervision of the Regents, is the "State University of New York" governed by a Board of Trustees appointed by the Governor and confirmed by the Senate. The State University is a decentralized confederation consisting of one liberal arts college, two medical schools, eleven colleges of education, eight other professional colleges, six agricultural and technical institutes and eighteen locally sponsored two-year community colleges.

The State University is subject to extremely tight controls imposed by State executive agencies and the law. There are several levels of administrative organization between the various units and the Legislature or the Governor. *In addition, the State University as a whole appears to have less administrative and management freedom of operation than almost any other publicly supported institution or group of institutions in the United States.*

Third is the Board of Higher Education of the City of New York which is responsible for the operation and management of the four city colleges and three community colleges (in the Bronx, Queens, and Staten Island). The Board is appointed by the Mayor, submits its budget to the City Board of Estimate for approval, receives its State funds through the State University, and is subject to the general supervision of its educational programs by the Board of Regents.

Fourth are the 126 private colleges and universities which are subject to general supervision by the Board of Regents with respect to the degrees they offer, the curriculums they provide, and any new campuses they open. In other respects they go various ways of their own.

Completely apart from the higher education hierarchy in New York State are a large number of organizations, institutions, and agencies providing education of one kind or another beyond the high school. Included in this category are the federal service schools (the United States Military Academy at West Point and the United States Merchant Marine Academy at Kings Point) and many educational programs at industrial, commercial and financial corporations. Since these are not under the jurisdiction of the Regents, the State Education Department does not consider them as part of "higher education" in New York. However, the education and training provided in many of the courses involved is similar to that provided by institutions of higher education recognized by the State and in some cases is of a superior quality.

Outside observers marvel that an organizational structure as complex as that existing in New York can operate effectively. The fact is that it has not operated effectively — only good will on all sides, particularly on the part of the Board of Regents, has prevented complete breakdown.

The first and foremost problem which faces the State, therefore, is to streamline the organizational structure of higher education so that colleges and universities will be able to meet the challenge of increasing enrollments during the generation ahead. WE PROPOSE a new alignment

of responsibilities in five organizational units:
(1) the Board of Regents;
(2) the State University of New York;
(3) the Board of Higher Education of the City of New York;
(4) new local boards of overseers for each public college and university; and
(5) a new council of higher education advisors.

(1) Board of Regents

The Board of Regents is responsible for the most comprehensive job of educational administration in the United States. In addition to its responsibilities in the field of higher education it supervises the elementary and secondary school education of 2,800,000 children in five thousand public schools; supervises all the museums, libraries, organizations and agencies for education officially recognized by the State; registers foreign and domestic educational institutions in terms of New York standards, and fixes the value of their diplomas and degrees; administers the licensing of eighteen professions; and is responsible for the operation of the State's Unfair Educational Practices Act. In the exercise of these responsibilities the State Education Department, including the Commissioner of Education and his staff, has a host of administrative duties, many of them mandated by law.

With all these duties and far-reaching responsibilities for the coordination of educational activities in New York State devolving upon the Board of Regents, we believe there is no reason why the functions of the Regents should overlap those of the Trustees of the State University, who have a much narrower and more specialized activity to conduct. But we strongly approve of the broad coordinating role of the Regents with respect to all higher education in New York State, and in proposing the reallocation of tasks we hope to enable them to exercise that responsibility more effectively.

WE PROPOSE specifically, therefore, that where public colleges and universities are concerned the functions of the Board of Regents, in addition to those exercised with respect to private institutions, should be limited to the receipt, critical review, and approval of a Master Plan for the development and growth of a system of public higher education.

This plan should be a continually developing document prepared by the State University and submitted at least once every three years to the Board of Regents who should amend or add to it, hold public hearings on it if necessary, and then act on it within three months after its submission by the State University.

(2) State University of New York

Full responsibility for planning and promotion of public higher education throughout the State should be placed upon the State University of New York, and its present powers of self-determination should be extended and clarified to bring them up to the level which is taken for granted by the great public universities of the nation. WE RECOMMEND a number of steps to accomplish this.

First, the State University should prepare a Master Plan for public higher education, obtain approval for it from the Board of Regents, and then take the full responsibility for implementing the policies and goals set forth in the Plan. The Master Plan should project the need for new programs in existing public institutions and for new public institutions of different types, and establish criteria for locating and establishing them. The Master Plan should take full account of activities proposed by private institutions, all of which should be requested to notify the Board of Regents and the State University of their plans for the future.

Second, the expansion of the State University's responsibility for planning and promotion of public higher education means that the State University must be freed of handicapping procedural requirements which now limit its capacity to act decisively and effectively. This is urgent if the needs of rapidly growing enrollments and of a presently large number of educational emigrés from New York State to other states are to be served within New York State. The State University should be granted a large degree of freedom from existing budgetary requirements for the establishment of individual positions and more leeway in shifting appropriated funds from one educational purpose to another and in the use of nonappropriated income (for example, income derived from nonacademic educational activities).

The State University should also be granted the right to determine what positions within its structure are "educationally related" and hence

can be established by the State University on its own initiative, rather than requiring approval of the Civil Service Commission.

It should be granted, also, the option now available to the "contract" colleges to make purchases, where cost or time or educational considerations dictate, through sources other than the Division of Standards and Purchase; this freedom would continue to be subject to existing arrangements for the pre-audit and post-audit of expenditures.

Finally, and importantly, the State University should be given greater freedom in carrying out construction work to build general instructional facilities for which funds are appropriated by the Legislature. Unreasonable delays in the approval of architectural plans and the actual initiation of construction cannot be tolerated if rapidly expanding enrollments are to be served. This probably means staffing the State University to handle its own architectural, engineering and construction contracting services.

A clarification of the relationship between the Regents and the State University Trustees and a realignment of responsibilities are essential to the future effectiveness of higher education in New York State. Without them the State University will never be able to keep a first-class president, nor will it be able to attain the stature of a great state institution of higher education.

The powers described above could be given the State University Trustees by the passage of a constitutional amendment. However, this is not required. The role of the Regents and the State University Trustees could and should be clarified by the Legislature by changes in the appropriate statutes of the State.

Most, if not all, of the other objectives could be accomplished by changes in, or interpretations of, existing regulations or procedures established between the State University staff and the Budget Director's Office, the Division of Standards and Purchase, the Civil Service Commission, and the Public Works Department. The Governor should take the responsibility for bringing about the necessary actions in order to avoid unwarranted delays.

(3) Board of Higher Education of the City of New York

The four city colleges are largely financed by the City, but the State's contribution toward the total cost has been growing, and it is reasonable

to expect that State aid to these colleges may continue to expand over the next generation. WE RECOMMEND, therefore, that the State be represented on the Board of Higher Education in proportion to the funds contributed by the State. To insure integration between the policies of the State University and the Board of Higher Education, the State representatives should be selected from among the Trustees and high administrative officials of the State University. These representatives would be nominated by the Governor, and would exercise this additional responsibility as part of their official function.

In this connection, WE RECOMMEND that the size of the Board of Higher Education, which is already too large, be reduced to fifteen members representing the City plus the additional members representing the State. The law could provide that the reduction to fifteen City members be accomplished by not filling vacancies as they occur during the next few years.

The Board of Higher Education, reconstituted as proposed above, should be responsible for planning, promotion and supervision of all institutions now supported in whole or in part by the City of New York, including the two community colleges now sponsored by the New York City Board of Education and the Board of Estimate.

(4) Local Boards of Overseers

The administration of a college or university, even one which is part of a larger system, is a demanding task, particularly during a period of rapid growth. Important decisions of both management and policy nature are required daily with respect to the internal functioning of the institution and the performance of its role in the total system. Experience in the administration of systems of higher education shows that the greatest effectiveness occurs when a strong local board is available to help govern a public institution.

WE PROPOSE that a new strong Board of Overseers be established for each public institution in the State to supplant existing advisory boards, trustees, or councils. These new boards should be provided for by statute and the duties of each should include: making recommendations to the State University Trustees of candidates for president of the institution; advising the president in the development of the budget and on program

planning required to meet the educational needs of the local area or constituency; and marshalling local area and constituency support, both moral and material, for the policies and programs of the institution.

One important purpose of establishing and developing local Boards of Overseers and of making them responsible for the operational management of the various public institutions is to protect and expand the State University's role as a planning and coordinating agency by releasing it from some of its present administrative duties.

The local boards should number 11 to 15 persons and should be representative of the varied interests of the community or constituency served by the college. Members should be appointed to terms of at least three years' duration, overlapping to provide continuity in the composition of the board. The boards should be appointed by the State University Trustees from candidates suggested by local area government agencies or by constituent groups served, except that in New York City, the Board of each of the city colleges and the community colleges would be appointed by the Board of Higher Education reconstituted as outlined above.

The Boards of Overseers should be truly identified with each institution and should not include persons who are members of the Board of Regents, the Board of Higher Education of the City of New York, or the State University.

(5) Council of Higher Education Advisors

In addition to the agencies outlined above, there is permanent need for a small body of prominent citizens to assess higher education in the State, to compare it with what is being accomplished in other states, to review progress that is made toward the achievement of the goals and objectives set by the Governor and the Legislature, and to recommend publicly and loudly what ought to be done to keep our system of higher education in line with our needs—statewise, nationally, and in view of the world situation.

WE PROPOSE that this body be authorized by the Legislature and appointed by the Governor and the Board of Regents for a four-year, nonrenewable term at the beginning of his term of office. The members should be outstanding leaders in the cultural, professional, civic, and

economic life of the State. They should be interested in higher education but not employed by an institution of higher education. They should be commissioned to make a report to the Governor, the Board of Regents and the public one year from their date of appointment, and annually thereafter, on the condition of higher education in New York, and on the current and prospective needs of higher education and how they are being met. Their report should also set forth the considerations which the various agencies of higher education and the Governor and Legislature should keep in mind in making education decisions for the future.

The Council should have a small, highly qualified staff for its term of office but it should have no administrative duties or functions other than those connected with the preparation of its report. Its budget should be adequate, and its life should expire at the end of each administration immediately after the presentation of its fourth and final report.

The proposed Council of Higher Education Advisors would not in any way supplant or overlap the duties of the Board of Regents, the Commissioner of Education, the State University, the New York City Board of Higher Education, or the local Boards of Overseers. The Council's job would not be administrative or planning. Its function would be to observe, assess, review, and recommend.

VII STRENGTHENING PRIVATE COLLEGES AND UNIVERSITIES

The recommendations and suggestions set forth above are designed to make it possible for the State to exercise its responsibilities in the field of higher education effectively and efficiently.

But the bulwark of higher education in New York State for many years has been our private colleges and universities, and the great tradition of meeting the need for higher education through a combination of private and public institutions must be preserved for the future.

Private institutions, as indicated earlier, can be expected to handle a declining share of enrollments. Nevertheless, by 1985 they still may be expected to enroll no less than 40 per cent of the full-time students in the State. To be able to do this and to handle their pro rata share of part-time students, they must be continued as strong and vigorous institutions — educationally, administratively and financially.

Private institutions of higher learning have important and unique functions to perform. They give American education a diversity and scope not possible in tax-supported institutions alone, and they have an opportunity to emphasize, if they wish, individualistic patterns of thought, courses of social action, or political or religious activity. In New York State, private colleges and universities have performed this function with great competency in the past. For the years ahead WE PROPOSE that the State help to insure the continuance of their effectiveness by inaugurating a program of direct aid to private colleges and universities. WE SUGGEST that this aid should:

(1) consist of a per capita grant to each institution for each student

graduated with a degree approved by the Board of Regents (except divinity degrees and, of course, honorary degrees);

(2) be in an amount no greater than a small fraction of the total cost of educating each student;

(3) vary with the level of the degree, inasmuch as education at advanced levels is clearly more expensive than that offered in the earlier years; and

(4) be formally provided to the institution under the terms of a contract drawn in accordance with the appropriation made by the Legislature.

WE SUGGEST further that planning and programming of State aid to private colleges and universities be under the direct jurisdiction of the Board of Regents, and that the amount proposed each year be included by the Regents in the budget of the State Education Department.

Although the direct aid we propose is for the purpose of strengthening private institutions and permitting private higher education to continue as a substantial and influential factor in New York State, the payments should not be so large as to change the character of private institutions —particularly so as to make them too heavily dependent on the State for their future financing. We believe that an aggregate payment not in excess of 10 per cent of teaching expenditures in private colleges and universities in the State would satisfy these requirements.

The program could be started in 1961-62 if desired with an expenditure of $10 million (which is approximately 6 per cent of teaching expenditures in private colleges and universities, as described in Chapter V). This could be allocated to the various institutions in a variety of ways depending on the relative weight given to the different degrees. Some illustrative schedules are shown in the Statistical Appendix.

We are advised that a contract plan would not violate the State Constitution where nonsectarian colleges and universities are concerned. We are not in a position, however, to say how sectarian institutions might fit into this State-aid program. The issue has never been decided specifically by the courts and we are informed that views as to its potential constitutionality are speculative.

Should there be a delay in settling this matter for sectarian institutions, this should not prevent the drawing up of the contracts with nonsectarian colleges and universities.

A State-aid program of the type we propose will be a new development

in the United States. We observe, however, that in Pennsylvania and in many countries throughout the world the trend is toward some measure of government assistance to enable private colleges and universities to remain in existence.

The program of State aid described above would provide funds for operating purposes. Private colleges and universities will need capital assistance, too. This should be provided by the New York State Dormitory Authority under the provisions of the present statute. WE RECOMMEND that the Legislature pass again at the next session, and the people of the State approve, an amendment to the State Constitution which would put the State's credit behind the Dormitory Authority's bonds.

VIII EXPANDING THE STATE UNIVERSITY SYSTEM

The realignment (as outlined in Chapter VI) of the administrative interconnections between the various State agencies involved in higher education and the freeing of the State University system from many restrictions will provide a streamlined mechanism for expanding public higher education in New York State. But these actions in themselves will not be enough to provide the State with a top-quality system of public higher education with a character of its own, a strong system (not one to just fill in the gaps), and one that will be widely available to students of all income classes wherever they are located in the State. Important changes must be made in addition, therefore, in the functions and the educational policies of the public institutions. WE PROPOSE that:

(1) The State colleges for teacher education be converted into liberal arts colleges.

New York's eleven colleges of education provide professional training for teaching to some 20,000 full-time students. These colleges are distributed geographically so as to cover every part of the State except New York City, where professional training for teaching for another 20,000 students is handled through State-financed programs at the colleges of the City of New York. There are, in addition, teacher training programs

at seventy private colleges and universities which handle about 15,000 "education" students.

Among the aspects of education that we can do something about, teaching is central. The preparation of teachers for our schools is one of the critical areas for improvement and experimentation. Some fundamental and far-reaching reforms are in order, for the goals and interests that have characterized American public education up to now are not sufficient in this swiftly moving age.

WE PROPOSE, therefore, that the state colleges of education be converted into liberal arts colleges, starting immediately. In those two or three instances where it may not be possible to convert a college of education into a *good* liberal arts college, the institution should become a community college. The State should not create inferior liberal arts colleges in place of inferior teachers colleges.

This recommendation rests on a number of assumptions and facts, including the following:

(a) Teachers should have a good general education. They should be as well educated as other college graduates in the communities where they teach.

(b) Strong State liberal arts colleges with teacher-education programs and low tuition would attract more students into teaching.

(c) The curricula of the State colleges of education need revision. The professional courses in education have been increased out of proportion to the legitimate subject matter in the field and some of the courses in the arts and sciences appear to be of dubious academic value.

When the colleges of education have become liberal arts colleges, the curriculum for training teachers in a four-year program should be heavily concentrated in the liberal arts and sciences. Professional "methods" courses should be reduced in number. More attention should be given to five-year Master-of-Arts-in-teaching programs.

The New York City colleges teacher training programs should follow a similar pattern and provide, in addition, some special programs for persons who plan to teach in New York City schools. The complex educational problems in large urban centers often require specially prepared teachers.

(2) The community-college system should be expanded.

A system of low-tuition, State-aided, locally supported and administered two-year community colleges is an essential and major part of the provision for higher education in New York State. The evidence indicates that in the future two-year public institutions must provide collegiate opportunities for a sharply increasing number of young people in this State as elsewhere in the nation.

Conservative estimates place the total two-year community college requirements in New York State at:

> *40,000* to *50,000* full-time students within *five years* (the fall *1959* number was *16,000*);
>
> *75,000* to *100,000* full-time students within *ten* to *fifteen years;*
>
> *100,000* to *125,000* full-time students within *fifteen* to *twenty years.*

Part-time students will be in addition to these numbers. Further details are in the Statistical Appendix.

Community colleges must also be close to home for nearly all of these students. This means that:

> *60 per cent* of the facilities will have to be located in the New York metropolitan area including Nassau, Suffolk, Westchester, and Rockland Counties;
>
> *20* to *25 per cent* will have to be located within commuting distance of Albany, Buffalo, Rochester, and Syracuse;
>
> the remainder will have to be distributed around the State.

There will be a great need to provide for "university-parallel" pro-

grams which will allow such students as are capable, and who wish to do so, to transfer to four-year colleges conveniently.

WE PROPOSE, therefore, that:

(a) existing community colleges be expanded with a top enrollment of 5,000 full-time students in the New York City area, and 3,000 full-time students in other parts of the State;

(b) new two-year community colleges be built as rapidly as a minimum enrollment of 500 students within two years of opening can be expected;

(c) "university-parallel" programs be incorporated in the curricula of all community colleges;

(d) upper-level liberal arts work for transfer students be provided at all of the State colleges of education that are converted into liberal arts colleges, as well as at the State University's Long Island Center and the four New York City colleges;

(e) the agricultural and technical institutes be converted into community colleges; and

(f) the State provide a greater share of the money for community colleges in the future than in the past.

More money from the State is important if the community colleges are to be expanded rapidly enough to handle the educational job that has to be accomplished in the future. One real stumbling block to a rapid expansion of community colleges under the present law is the requirement that local communities finance one-third of operating costs. In general this means higher local property taxes—taxes which already have increased greatly in recent years to meet the requirements of the public schools.

The State could increase its share of the financing of community colleges in a number of ways. For example:

(a) It could increase its contribution from one-third of operating costs to a higher percentage—say one-half of operating costs.

(b) It could increase its share of expenditures for capital items from the present 50 per cent to, say, 100 per cent. This would be less effective than increasing the State's share of operating costs.

(c) It could make a flat grant to each community college for each full-time student or full-time equivalent student. This could be similar to the State grants to high schools.

These alternatives should be considered by the next Legislature and action taken. Our preference is for the first.

(3) Graduate work should be provided at two State University locations.

New graduate centers in this State will be essential during the next twenty-five years in order to maintain and improve the quality of instruction. With their twin missions of advanced education and basic research, graduate schools are the keystones of modern universities. A great graduate school cannot exist in isolation, however. It must be a part of a great university with all this implies in undergraduate and professional education as well as graduate instruction.

New graduate schools and new universities are expensive and their building takes many years. In the decades ahead they are unlikely to be the product of private initiative. WE PROPOSE, therefore, that preparations be begun immediately for the establishment of graduate schools as an integral part of two new publicly supported universities in New York State.

These universities should be included in the State University system. One should be established on the site of the State University's new Long Island Center at Stony Brook, which with additional land in the immediate vicinity of the present 500-acre campus, could be developed to accommodate from ten to twenty thousand students including commuters. It would have easy access to the great research laboratory at Brookhaven for graduate work in the sciences. The other university should be established upstate, either through the conversion of an existing private institution or through the development of one of the present campuses of the State University, and should be reasonably large in size and scope too. We are not favorably disposed toward the development of isolated graduate programs in widely scattered locations.

The two new public universities should be designed to stand with the finest in the country, and to attract and hold able men and women from all over the world. They would bring to the State and help to advance the technical and scientific industries that are playing an increasingly important part in our national economy. The faculty and research staffs would provide additional sources of advice and expert service for all the public and private interests of the people of the State.

(4) Enrollment capacity should be expanded by better space utilization and by year-round operation of campuses.

If the State University were to continue to follow historically accepted space utilization practices during the next ten or fifteen years, appropriations for new buildings to meet the enrollment demand would have to be greater than the grand total provided for college buildings by the Legislature during the past century. This would be unreasonable in view of the fact that:

(a) classrooms and laboratories are occupied less than the maximum available number of hours of the week, particularly during the late afternoon and evening hours, at lunch and dinner time, and on Saturdays;

(b) when classrooms are occupied, many seats are not filled; and

(c) classrooms are occupied less than the maximum number of weeks of the year (thirty-three weeks is a common schedule — and even in cases where there are summer sessions, classroom utilization is a fraction of the potential).

Dr. John Dale Russell, Director of Institutional Research at New York University and an authority on space utilization, says that in most colleges and universities across the country present facilities could handle theoretically about four times the present number of students during the regular session if rooms were filled to capacity. While the theoretical limit is unlikely to be reached, no one can deny that much can be done to improve space utilization and to reduce the potential requirements for new funds for buildings to house increased enrollments.

We have been advised, and we have no doubt, that the State University has long worked toward a higher-than-average level of space utilization. We recognize that there are numerous and formidable obstacles in the way of improvement. Nevertheless, with the increase in student numbers it will be possible to use classrooms intensively in off-hours and on off-days. In order to encourage this, WE PROPOSE that special concessions be made to faculty and students for courses scheduled during less popular periods (such as a salary-increase differential or a reduced teaching load for faculty, and reduced tuition or special campus privileges for students).

In addition there is the possibility of year-round use of campuses. The

State University can no longer afford the luxury of keeping college classrooms, laboratories and libraries largely unoccupied three or more months annually. It should investigate the possibility of adopting the four quarter plan or trisemester system, each of which extends campus use to 11 to 11½ months a year.

A number of colleges and universities are experimenting with year-round campus operation plans and report them to be successful. In Pennsylvania, for example, the University of Pittsburgh, The Pennsylvania State University, and one of the state teachers colleges are on a year-round basis. The Pennsylvania State Senate was so impressed with the results that it passed a Resolution commending these institutions "for their forward looking approach in making their facilities available to a larger number of students by instituting twelve-month programs." The Legislature then went on to say "It is hoped that other institutions of higher learning in Pennsylvania will explore the possibility of instituting similar programs."

(5) Opportunity for college-level education should be expanded by the establishment of a statewide system of educational television.

There can be no doubt that the State University will have to proceed even beyond the steps outlined above in order to bring high-quality, low-cost, college-level training in a great diversity of fields of study to all the students who want it, need it, and should have it in the years ahead. One practical method is to broadcast college-level courses on television. Recent experiments show that a high level of learning can be accomplished when:

(a) the instructor is a superior teacher;

(b) the course is well organized and planned;

(c) "on-campus" as well as "off-campus" viewing facilities and areas are available;

(d) appropriate textbooks, workbooks, laboratory exercises and other materials are prepared in advance and placed early enough in the students' hands; and

(e) a careful follow-up of the televised course is arranged, through seminars, workshops, discussion sections, laboratory experiments, or other means.

A statewide program of television courses at the college level will take a year or two to work out. WE SUGGEST that the State start on the necessary plans at once, therefore, taking the first steps towards establishing a statewide education network linking all of the units of the State University, and the private colleges and universities, too, if they desire. To be most effective this system should:

(a) provide programs of only the highest quality;
(b) require high standards of performance for credit;
(c) place control of educational policy for the program in a council composed of leading college and university administrators;
(d) place responsibility for preparation of courses in the hands of experienced faculty members; and
(e) provide for constant evaluation of the quality and effectiveness of the courses.

There is no reason to suppose that television broadcasting of college courses will supplant the work performed by faculty members, nor will it eliminate classroom attendance. High-quality collegiate television is something extra. It is designed to:

(a) add to the student's college study experience in cases where he might otherwise be unable to continue his study;
(b) bring outstanding teachers and courses to even the most remote parts of the State; and
(c) raise the level and diversity of educational offerings in every institution of higher learning, public or private, no matter how limited or specialized its "on-campus" program might be because of financial limitations or administrative policy.

(6) A uniform tuition charge for undergraduate work should be established at all public colleges.

The cost of providing higher education is increasing all over the country. In New York State there will be a great need for additional sources of financing at public institutions, particularly to permit payment of adequate faculty salaries. The imposition of a uniform tuition charge for undergraduate work at colleges of education, the New York City colleges, the agricultural and technical institutes, the contract colleges, and other public colleges is long overdue. Decisions on tuition made ten,

twenty, or even a hundred years ago are no longer relevant and should be changed now that financial demands are mounting and can be expected to continue to mount at an accelerating rate in the decade or two ahead.

WE PROPOSE, therefore, that starting in the fall of 1961 a uniform tuition-and-fee charge of $300 per year be imposed on full-time, undergraduate resident students at all public colleges in New York State — including units of the State University, the community colleges, and institutions in the New York City college system. Inasmuch as this action would raise the charges for the great majority of full-time students in the colleges involved and might in some cases impose difficult financial burdens on students of limited means, WE PROPOSE that tuition rebates be given *automatically* to all "C" average or better students from families with incomes of less than $5,000 a year (as shown by State income tax returns) and to other hardship cases.

This proposal is based on the conclusion that:

(a) A tuition charge is essential if public colleges are to be financed adequately in this State in the future when demands for education and the costs of providing education can be expected to rise rapidly.

(b) A large proportion of students in public colleges and universities in other states pay some tuition and fees and this has not excluded students of limited means from these institutions of higher education.

(c) The tuition in many public institutions in other states has been raised in recent years as legislatures found that additional substantial income from tuition was an essential part of college and university financing.

(d) A large number of students now going to New York City colleges and the State University colleges where tuition is free and fees are low are financially able to pay a tuition-and-fee charge comparable to that charged by other state universities and municipal colleges—or for that matter, by community colleges in New York State, by Harpur College, and by the State University's Long Island Center.

(e) A tuition-rebate plan administered by student-aid officials of the various colleges in accordance with general specifications laid down by the Legislature, and making special provisions for hardship cases, can prevent tuition from being a burden on students truly in need.

(f) By 1963 or 1964 a $300 tuition-and-fee charge, minus rebates under the tuition-rebate plan, can be expected to increase the net income of the colleges and universities involved by $15 million a year.

IX MEETING THE NEEDS FOR HEALTH PERSONNEL

Last year the Surgeon General's Consultant Group reported to the nation that the problem of increasing the supply of medical school graduates was urgent. Three major phenomena, they said, have combined to create a growing need for physicians:

(1) a rapid growth in population, with a more than proportionate increase in the younger and older age groups which need the most medical service;

(2) an increase in the individual use of medical services as incomes and educational levels have risen, more people have health insurance, more hospital beds are available, and there is a wider understanding of the value of medical care; and

(3) an increasing use of people with medical training for research, teaching, public health and other governmental work.

The Consultant Group then went on to analyze the educational capacity of the present medical schools and concluded that 20 to 24 new two-year and four-year schools would be needed nationwide by 1970, of which two should be in New York State.

We believe that the Consultant Group's estimate is conservative and that New York's minimum needs may be higher than projected — certainly as the State looks forward to 1975 and 1980. It is essential, therefore, that planning for new schools in this State be given the highest priority.

But New York State, we find, is not organized adequately to do this. There is not an agency, nor a committee, nor even an official whose prin-

cipal duty is to lay the groundwork for training the number of doctors needed in the State as a whole. Instead, the responsibility is diffused among the general duties of the Governor, the Board of Regents, the State Education Department, the Legislature, the medical societies, and the deans of the medical schools.

This should be corrected. The responsibility for a program of action should be assigned as soon as possible. WE PROPOSE that the Governor appoint, with legislative approval, a Temporary Special Executive for Medical Education (a "temporary" appointment is required because the salary needed to obtain a highly qualified person for this job is far above the State salary schedule for executive personnel).

This Special Executive should draw up a detailed Master Plan for the Expansion of Medical Education in New York State during the next ten to fifteen years; and the Governor should present the plan to the Legislature, after its approval by the Trustees of the State University and the Regents, during the 1962 legislative session.

The Master Plan for Medical Education should provide programs for:

(1) construction of two or three new State medical schools within the next ten to fifteen years, at least one of which should be an experimental institution;

(2) expanded appropriations for the State's upstate and downstate medical centers;

(3) State grants to private medical schools administered by the Board of Regents; these should be on a matching basis (to either federal or private funds) to enable the various schools to expand their teaching facilities (in this connection efforts should be made to put the classrooms and laboratories of these schools on a year-round operation schedule);

(4) liberal financial aid to medical students, interns and resident physicians at hospitals, with a stipend (graduated on a "needs" basis) comparable to the amounts offered as fellowships to graduate students in other fields; and

(5) better pay for interns and resident physicians at hospitals.

These programs, together with the per capita grants for operating purposes described in Chapter VII, can be most effective if, at the time they are being put into operation, the State also takes action to develop a well-trained corps of auxiliary medical workers, particularly nurses.

The shortage of nurses and the resulting reduction in the availability of health services to the population as a whole is evident at every turn. The greatest numerical deficit is among bedside nurses, but there is also need for graduate nurses, teachers of nursing, administrators of nursing schools and programs, and other nursing leaders. There are five steps that the State should take to improve the situation:

(1) expand programs for nursing education at the bachelor's degree and at the master's degree level, and at diploma schools and the two-year community colleges, too;

(2) sponsor the development of new ways of training young women as bedside nurses, particularly through the use of audio-visual aids;

(3) establish an organization charged with helping public and private hospitals throughout the State to analyze their nursing activities and to use nurses more effectively;

(4) sponsor the offering of elementary nursing training in high schools throughout the State as part of domestic science or homemaking education programs (this will expose many young girls to the nursing profession; some will take it up as a career; for the others the training will be useful preparation for marriage and motherhood); and

(5) encourage increases in nurses' salaries to levels competitive with other occupations requiring a comparable amount of training or experience (nurses' salaries are inadequate at the present time—see Statistical Appendix; they must be higher in the future because New York State needs more nurses than can be found among "dedicated people" who will work long hours under unsatisfactory conditions for inadequate compensation).

These steps for nursing and the steps set forth above for expanding medical education are the minimum needed in New York State in the years immediately ahead. If associated with action aimed toward better utilization of physicians' and nurses' services (a responsibility of doctors, hospitals, and medical societies rather than education agencies) the State will be well on the way toward an adequate supply of physicians and nurses for the future.

X PROVIDING FOR MANAGEMENT IMPROVEMENT

One weakness in higher education in New York State today, and in the country as a whole, is the absence of agencies which can help colleges and universities transform the results of research, reflective study, and institutional surveys into actual practice. Even more critical is the absence of machinery to examine the administrative management and educational practices embedded in the operation of many colleges and universities, and the failure of these institutions to allocate an adequate volume of funds for management analysis and internal research.

It has been said that education could learn from such dynamic industries as chemicals, electronics, petroleum, and even agriculture, in which rapid technological improvement in recent years has enabled productivity to rise dramatically. A common characteristic of these industries is the continuously high level of expenditures for research and development designed to improve present processes and products. A typical chemical company, for example, spends three per cent or more of its sales dollar on research and development. Much is spent each year to improve agricultural products and productivity. Nearly ten per cent of the nation's total Federal budget is for scientific research and development. In contrast, total expenditures on research to improve the educational and administrative processes of higher education cannot amount to more than one-tenth of one per cent of the educational dollar nationwide — and New York is spending no more than the national average.

But it is not only the money that is not being spent. The fact is that at a time when there are 425,000 students in this State it would be hard to find twenty people who are working full time on research designed to

improve the technique of the educational or administrative processes in our 176 colleges and universities.

In the decade ahead this must change. Colleges and universities in New York State must bring to bear on their own situations the same kind of creative ability they have applied extensively in the past to the problems of industry, agriculture and government. The dynamic imagination so dramatically focused on new techniques and new patterns of thought — by the Columbia University staff in its activities for the Manhattan project, by the Cornell staff in its agricultural projects, by the New York University medical men in their restoration of the crippled at N.Y.U.-Bellevue, and by the various universities involved at Brookhaven — must now be directed to the problems of higher education itself.

WE SUGGEST that the State help colleges and universities to do this. One way would be to establish a new agency whose sole function is to improve the technique of higher education in New York State. Briefly, this agency could:

(1) help colleges and universities create, develop and adopt new policies, concepts, procedures, techniques and materials;

(2) encourage prompt use of emerging knowledge about administration and educational practices;

(3) train a corps of people capable of serving as outside consultants and as members of the staffs of colleges and universities; and

(4) act as a permanent consultative or advisory group which would help public and private colleges and universities, upon request, to work out solutions to specific problems of internal management and educational practices.

In view of the nature of its work, this new agency, though financed by the State at its beginning, should not be located administratively or geographically within an institution of higher education or in an existing State Government organization. On the other hand, it could be expected to maintain close working relationships with the State Education Department and the central office of the State University.

XI THE STUDENT

The recommendations made so far in this report have been concerned with the organization and structure of higher education in New York State and the provision for strong private and public colleges and universities.

We turn now to the student. How should his college experience be strengthened? How should we insure that those students capable of post-high school education will actually be able to go to college? There are a number of steps which WE SUGGEST be taken.

(1) The minimum level of attainment at colleges and universities throughout the State should be raised.

This means, first, more careful selection of students at the time of admission; second, higher minimum requirements for acceptable work; third, elimination of courses of dubious academic content from college offerings; and fourth, rewards and incentives for higher performance.

The Regents should take the leadership in developing a program designed to improve attainment in all colleges and universities in the State.

(2) Students should be encouraged to attend classes the year round and to obtain degrees in a shorter period of time than is now customary.

Going to college eight months a year is a custom that originated in an agricultural economy. Going to college for a four-year span harks back

to the 12th century when English parents figured that four years of study abroad was a reasonable length of time for young men to be away from home. Taken over by Cambridge and Oxford and imported into the United States by Harvard in 1636, four years for college at the undergraduate level has become embedded in our educational structure.

However, obtaining a bachelor's degree in three years and a bachelor's-master's degree combination in 3¾ to 4 years is practical and feasible. Such a plan has been introduced at the University of Pittsburgh, will be in full operation by the fall of 1961, and is uniformly applauded by faculty and students alike. It is providing the opportunity for thousands of young people to shorten by one year the time spent in preparation for a career. Graduates are enabled to start regular jobs or to embark on professional education earlier, and to reduce thereby the over-all burden of financing their college education.

It will be observed by some that many students must work during the summer, that year-round going to college is too hard on young people, and that a three-year program interferes with athletics as well as academic activities. President Grayson Kirk of Columbia University said recently in this connection:

Physicians and psychiatrists assure me normal youngsters can take the three terms in stride. During World War II and a few years afterward many students were on a forty-eight-week schedule and showed absolutely no ill effects from it. And the level of performance never was higher.

He also said:

The trimester college plan . . . involves no sacrifice of academic elements or, for that matter, undergraduate tribal customs. There may be even more participation in extracurricular activities with students' attention focused on the campus forty-five weeks a year. Sports can continue on the present basis by dropping the freshman eligibility rule, as it was during the War.

Special provisions may be necessary for those students who must work their way through college. They may not be able to give up the four-year time span. For other students, however, the three-year period for a degree should be the "standard" plan.

(3) Students should be encouraged to obtain college credit by taking "Regents examinations" at the college level.

A large number of students are now doing college level work by independent study and in television courses, adult education courses, courses at industrial plants, and other courses outside regular college curriculums. One great difficulty with these courses is that they do not count uniformly, if at all, toward the achievement of a college degree. Yet in many cases the subject matter studied is equivalent to that offered in a course in a regular college or university curriculum.

We can expect a great increase in the future in the number of students in educational activities other than full-time, day-student programs as the post-high school age population increases and the desire to do college work expands. Many of these students will be engaged in high-quality study, and WE PROPOSE that a program be established by the Regents which would permit students to acquire regular college credit for their achievements without regular attendance at formal college classes.

The program we propose involves "Regents examinations" at the college level which would test the student's knowledge, skills and command of a given subject. For these tests we believe that:

(a) standards should be and could be kept at high levels of proficiency — certainly not less than colleges now maintain for a passing grade;

(b) the aggregate amount of credit given should be limited; the total should not constitute the entire college course; and

(c) credit should be awarded at the option of the college or university, in accordance with an organized curriculum or course of study arranged between the student and the institution.

The system of credit by examination we propose is based on the following conclusions:

(a) the demand for trained manpower during the next decade or two will be so great that the State should encourage students to engage in post-high school study of every form;

(b) high-quality post-high school education can be offered through television courses, adult education courses, and by other means outside the conventional curriculum of colleges and universities; and

(c) the offering of these courses outside the conventional curriculum can

extend the effectiveness of well-qualified faculty and alleviate the seriousness of their potential shortage as enrollments increase.

The preparation and administration of these examinations would be the responsibility of the Regents, in consultation with the faculties of the various colleges and universities in the State. The Regents are already familiar with the problems and principles of statewide examinations, since they now supervise an extensive system of high school examinations as well as licensing examinations in 18 professions. They could also draw on the broad experience of the Educational Testing Service, which develops and administers a variety of college-level examinations, including those for advanced placement; and of a number of universities within the state which give a small amount of course credit by examination (for example, the University of Buffalo and Columbia University's School of General Studies).

(4) Going to college for those who cannot afford it should be encouraged by increased scholarships and loans.

During the school year 1960-61 more than 200,000 New York State residents will be enrolled as full-time students in colleges and universities. The cost of a year's undergraduate education will average about $2,500 in a private college or university, and about $1,500 in a public institution. These estimates include tuition and fees, board and room (or an allocation therefor), and incidental and personal expenses.

To these 200,000 students the aggregate cost for a college education during this school year can be expected to amount to no less than $400 million (the amount for part-time students will be in addition). New York State is financing about 3 per cent of this total by tax money through the State scholarship program. In addition the State aids its students indirectly by taxpayer financing, in whole or in part, of the various units of the State University system; and the State and New York City jointly finance the New York City college system.

In the aggregate the measures of public support per capita for higher education in New York State are small when compared to the levels in a number of other states. In California (14 million population), for example, the "tax dollars" furnished in 1958 by the State and by local

governmental units for teaching students and providing scholarships in colleges and universities amounted to $205 million — not including capital funds (see Statistical Appendix). In New York, with a larger population (16 million people), the total was less than half as great — $87 million, including New York City colleges. Comparative figures on a per capita basis for 1958 are as follows:

Table C "Tax Dollars" Furnished by State and Local Governments for Teaching Students in Colleges and Universities and Providing Scholarships (Current Funds Only—1957-58)

State	Per Capita Amount	State	Per Capita Amount
California	$15.17	NEW YORK	$5.41
Michigan	11.82	North Carolina	5.18
Iowa	10.29	Missouri	5.12
Minnesota	10.12	Connecticut	5.08
Indiana	8.55	Ohio	4.44
Illinois	8.08	Pennsylvania	3.32
Wisconsin	7.65	New Jersey	3.15
Texas	7.61	Massachusetts	2.39

We have already recommended that the State University system be expanded substantially. However, this expansion can provide an adequate volume of higher education effectively to New York State residents only if:

(a) private colleges and universities are strong enough to handle 40 to 50 per cent of full-time students in the future as enrollments in the State increase; and

(b) it is possible for an adequate share of qualified students in the State to finance an education at a private college or university.

The program of State aid to private colleges and universities (proposed in Chapter VII) and a substantial rise in State-scholarship aid are required to make these two circumstances possible. WE PROPOSE, therefore, that the State:

(a) increase the number of State scholarships available annually to 10 per cent of each year's high school graduates instead of 5 per cent as at present;

(b) increase maximum scholarship awards to $1,500 and determine all

scholarships on a "needs" basis established each year by the Regents, except for a single-stipend minimum scholarship of $100 which winners not in need would receive as an honorary award; and

(c) reduce the cost of loans to students through the program of the New York Higher Education Assistance Corporation by State grants to pay the part of interest charges in excess of 3 per cent per year.

WE PROPOSE also that the State eliminate restrictions of the scholarship program which require scholarship winners to attend colleges and universities within the State. This will broaden educational opportunity greatly at no extra cost to the State.

Finally, the State should provide an annual appropriation for evaluating the scholarship program. Too many scholarship programs go along for years without any organized reconsideration of their effectiveness.

XII POSTSCRIPT ON THE HIGH SCHOOL

Our report on higher education cannot be complete until it commends the large number of high school teachers, guidance counsellors and school administration officials in New York State for the manner in which they prepare high school students for college. Teachers in the high school grades require relatively high standards of accomplishment, and the statewide use of uniform Regents examinations in high school subjects taken as preparation for college has done much to encourage the offering of high-quality high school courses throughout this State.

As a greater number of students go on to college in the future, pressure on the high schools can be expected to increase for:

(1) better integration between high school and college programs, including advanced academic work for able students; and

(2) more and better guidance for high school students planning to go to college.

The Regents, as supercoordinating body for both high school and college work in New York State, should direct the staff of the State Education Department to take specific steps in each of these areas.

(1) Better Coordination

The State Education Department should move into this on a statewide basis. Too many courses are duplicated in the last year of high school and the first year of college. Statewide agreement between high schools

and colleges as to what the student should study, and when, would benefit both high school and college curriculums.

In addition more effort should be directed toward encouraging able students to take advanced work in the eleventh and twelfth grades of high school and to reduce the period of college attendance by "advanced placement"; that is, skipping some of the first-semester freshman courses and going directly into second-semester freshman courses, or even sophomore courses. The advanced placement program, now six years old, depends for its success upon the availability to able students of advanced academic work in high schools. Twenty-seven per cent of the high schools in New York State now offer such work.

(2) Better Guidance

The State Education Department should handle this also on a statewide basis. Steps should be taken to:

(a) inform guidance counsellors, college entrance supervisors, high school principals and other school officials of current new developments taking place with respect to college entrance; (a coordinated system of communication does not exist at the present time; high school counsellors and students are frequently unaware of developments taking place in the various colleges and universities in the State);

(b) increase the availability, in convenient form, of pertinent information about colleges, particularly with respect to entrance standards, scholarships, student body profiles, living arrangements, costs of attendance including personal expenses and travel, social standards and all the other aspects of college life with which the prospective student is concerned;

(c) provide forums, workshops, conferences and similar activities for advanced training of counsellors; and

(d) reduce the sheer volume of paper work devolving upon the counsellor and the student in preparing applications for college entrance.

XIII CONCLUSION

New York enjoys a position of national leadership in elementary and secondary education; it does not enjoy as a State a comparable position in higher education.

We now face an unprecedented rise in college and university enrollments—a rise so dramatic that it will substantially alter the shape of our higher educational system.

This is a state that believes in education. This is a state that knows what excellence in education can mean. The people of New York will not stand by and see their young people given less than the best.

The State can follow either of two courses. It can yield reluctantly and tardily to the enrollment pressures, patching the system here and there, fighting off public discontent (of which there will be plenty) and hoping that the problem will solve itself.

Or it can assume the position of leadership that becomes a great state. It can build for the future with a vigor and determination worthy of the people of New York.

We recommend the latter course.

STATISTICAL APPENDIX

This appendix presents statistical materials relating to higher education in New York State and provides estimates to 1985, where possible, in order to show the magnitudes involved in the generation ahead.

A. Growth in Enrollments

CONCLUSION: The number of persons in New York State wishing to go to colleges and universities full time and part time and able to do post-high school work can be expected to grow from 401,000 in 1959 to 646,000 by 1965 and 1,270,000 by 1985, as shown in the table that follows:

Table 1 Estimated Enrollments in Colleges and Universities in New York State

Fall of Year	Number	Index (1959 = 100)
1959 (actual)	401,000	100
1960	425,000	106
1965	646,000	161
1970	804,000	200
1975	962,000	240
1980	1,102,000	275
1985	1,270,000	317

FURTHER DETAILS: Five main reasons underlie the expected growth in the number of college students. They are:

1. There will be an increasing number of young people of college age.

The college-age population is just beginning to reflect the high level of births during and since World War II. These jumped from 199,000 in 1940 in New York State to 235,000 in 1945, to more than 360,000 in each of the last three years. Our estimates are based on the assumption that the level of births will remain high for a number of years as shown in the following table:

Table 2 **Number of Births in New York State**

Year of Birth	Year Birth Group Is 13 Years of Age	Number of Births	Index (1940 = 100)
1940 (actual)	1953	199,000	100
1945 (actual)	**1963**	235,000	118
1950 (actual)	**1968**	302,000	152
1959 (actual)	**1977**	363,000	182
1962 (estimated)	**1980**	376,000	189
1965 (estimated)	**1983**	398,000	200

2. *An increasing proportion of young people can be expected to graduate from high school.*

The percentage of the population finishing high school has been increasing in the United States and in New York State for fifty years or more. The increase was very rapid during the period between the World Wars and has averaged about three-quarters of one per cent annually in recent years. Further growth can be expected in the future, although some tapering off will undoubtedly occur after 1970, as is shown in the table that follows:

Table 3 **Number of High School Graduates in New York State**

Year	Number of Graduates	Percentage of Corresponding Age Group in the Population
Actual		
1910	11,000	10
1920	20,000	20
1930	55,000	35
1940	122,000	55
1950	113,000	62
1959	140,000	69
Estimated		
1960	161,000	70
1965	214,000	74
1970	232,000	77
1975	266,000	79
1980	289,000	81
1985	332,000	83

3. *The percentage of high school graduates going to college full time can be expected to increase.*

During the past fifty years there has been a steady increase in the proportion of young people going to college. No one has any precise figures for New York State, but significant gains have certainly been made since the end of World War II, and the upward trend can be expected to continue. A conservative possibility is in the table that follows:

Table 4 **Estimated Percentage of High School Graduates in New York State Going to College Full Time**

Year	1st and 2nd Years of College	3rd and 4th Years of College
1959 (actual)	36%	22%
1960	36	22
1965	40	24
1970	45	25
1975	48	26
1980	51	26
1985	53	27

Going to college is rapidly becoming nearly as important to all levels of society as going to high school became during the period between the two World Wars. The social value of higher education has become increasingly significant as the mobility of population has increased and mass communications have grown.

Young people are also being encouraged to attend college by the fact that more jobs require two to four years of college training. Dr. Eli Ginzberg of Columbia University and Director of the Conservation of Human Resources Project says in this connection:

The overwhelming evidence is that our society is becoming ever more dependent on individuals who have acquired a high order of formal education and training. This is expressed not only in constantly increasing demands for individuals trained in science and technology, but also for specialists trained in management, the social sciences, and languages.

There is every reason to anticipate that the decades of the 1960's and 1970's will witness an increasing demand for people with college, graduate, and professional education.

Colleges and universities a'so will be called upon increasingly to provide in-service training for persons who are employed. There are already a large number of cooperative arrangements between industry and institutions of higher education to provide training programs for high-level personnel. These can be expected to increase.

Going to college can also be expected to be bolstered by the economic well-being of the country. Not only are incomes higher, but scholarship and loan aid to students has increased substantially during the past few years and can be expected to increase further in the years ahead because many expanding programs are already under way. In 1959-60, students in New York colleges and universities received $90 million of scholarships, loans and other financial help, about one-half of which came from the Federal Government, as shown in the table that follows:

Table 5 **Financial Aid to Students in New York State—1959-60**

Type of Aid	Amount (Partly Estimated)
	In millions
Scholarships and fellowships	
Granted by	
1. the State of New York	$11
2. the colleges and universities themselves	13
3. federal agencies (Veterans Administration, National Institutes of Health, National Science Foundation, etc.)	40
4. private organizations (National Merit Scholarship Corporation, Woodrow Wilson Fellowship Foundation, etc.)	3
Loans	
Granted by	
1. Higher Education Assistance Corporation	5
2. the colleges and universities themselves (including federal loan program)	8
3. private organizations	1
Employment arranged by or in connection with activities of a college or university	
All forms, including assistantships and federal research projects	10
Grand total	**$91**

4. Part-time enrollments can be expected to increase along with full-time enrollments.

Many persons can be expected to upgrade their skills in the future through part-time college attendance, particularly as the need intensifies for highly trained and technically skilled manpower. Part-time enrollments are now nearly equal to full-time enrollments, and can be expected to grow in the future at about the same rate as full-time. A conservative projection of the figures is in the table that follows:

Table 6 **Comparison of Estimated Enrollments, Full-Time and Part-Time, in Colleges and Universities in New York State**

Fall of Year	Full-Time	Part-Time
1959 (actual)	205,000	196,000
1960	217,000	208,000
1965	323,000	23,000
1970	402,000	402,000
1975	481,000	481,000
1980	551,000	551,000
1985	635,000	635,000

5. The percentage of undergraduate students going to schools outside New York State can be expected to decline.

For many years New York has sent more undergraduate students to colleges and universities outside the State than it received from other states. The reasons include:

(a) the lack of a low-cost, high-quality State university in New York State comparable to that existing in other leading states; and

(b) the desire of students to go to outstanding public and private institutions in other states.

In the future other states can be expected to absorb a smaller proportion of New York students than in the past. Public institutions already are imposing tighter restrictions on the admission of out-of-state students, and private institutions, although they will expand, cannot be expected to increase enrollments in proportion to the increasing size of the potential student body. A reasonable projection of "out-migration" of students as a percentage of the total is shown in the table that follows:

Table 7 **Estimated Percentage of New York State Undergraduate Students Going Outside of New York State**

Year	Gross Out-Migration	Net Out-Migration*
1949-1950 (actual)	28%	9%
Fall 1958 (actual)	26	10
1960	26	10
1965	20	7
1970	18	6
1975	17	6
1980	16	5
1985	15	5

*Subtracting students who come into the State

B. Will Increased Enrollments Be in Public or Private Institutions?

CONCLUSION: Although both public and private colleges and universities in New York State can be expected to expand rapidly over the next generation, their roles, as far as the percentage of students handled is concerned, may be reversed. Private colleges now enroll 60 per cent of all students in the State. Conservative estimates place their share at not more than 40 to 50 per cent by 1985.

FURTHER DETAILS: Obviously, many alternative estimates can be made of the number of students the private colleges and universities in this State could enroll over the next generation. After consulting with many college and university officials in the State, we have made three—assuming a 50 per cent, a 100 per cent, and a 150 per cent increase by 1985. In each case the private share of the total shows a decline. The figures, along with some historical data, are in the table that follows:

Table 8 **Alternative Estimates of "Private" Enrollments and Comparisons of the Percentage of the Total Involved**

Year	Total Enrollments in New York State	Enrollments in Private Colleges and Universities in New York State	Percentage "Private"
Actual enrollments			
1940-41	151,000	88,000	58
1950-51	272,000	170,000	62
1955-56	363,000	223,000	61
1959 (fall)	401,000	247,000	62
Assuming a 50 per cent increase in "private" in 25 years			
1960 (fall)	425,000	250,000	59
1970	804,000	300,000	37
1985	1,270,000	375,000	30
Assuming a 100 per cent increase in "private" in 25 years			
1960 (fall)	425,000	250,000	59
1970	804,000	350,000	44
1985	1,270,000	500,000	39
Assuming a 150 per cent increase in "private" in 25 years			
1960 (fall)	425,000	250,000	59
1970	804,000	400,000	50
1985	1,270,000	625,000	49

Whatever the private enrollment figures turn out to be, the public institutions have to make up the rest. A summary of possibilities, based on the alternatives for "private enrollments" set forth above, is in the table that follows:

Table 9 **Alternative Estimates of "Public" Enrollments and Indices of Growth Involved**

Item	1959	1960	1970	1985
Total enrollments in New York State	401,000	425,000	804,000	1,270,000
Total "public" enrollments				
After allowing for the following increases in "private" enrollments by 1985:				
50%	154,000	175,000	504,000	895,000
100%	154,000	175,000	454,000	770,000
150%	154,000	175,000	404,000	645,000
Index for "public" enrollments (1960 = 100)				
After allowing for the following increases in "private" enrollments by 1985:				
50%		100	288	511
100%		100	259	440
150%		100	231	369

A substantial and growing proportion of the "public" enrollments can be expected to be concentrated in two-year public community colleges, a type of institution which has shown itself to be adaptable to rapidly increasing and diversified needs for post-high school public education. Opinions vary as to how fast this growth will be, but everyone agrees the growth should be substantial. A comparison of the percentage of students in California, Illinois, and Texas enrolled in public junior or community colleges, with the percentage enrolled in New York in the past and some alternative projections for the future, is in the table that follows:

Table 10 **Public Junior College Enrollments as a Percentage of Total College and University Enrollments in a Number of States**

Year	California	Illinois	Texas	New York
Four States (full-time and part-time)				
1930	16%	7%	8%	0%
1940	38	10	12	0
1950	35	10	13	4
1959	50	15*	20	9
Two States (full-time)				
1950	34			3
1959	42			8
New York Only (full-time)				
Alternative I				
1965				12
1970				15
1975				17
1980				18
Alternative II				
1965				14
1970				18
1975				20
1980				22
Alternative III				
1965				16
1970				21
1975				23
1980				25

*Expected to increase to 26 per cent by 1970

Using these alternative percentages, the outlook for full-time enrollments in two-year community colleges in New York State as compared with conservative projections recently developed for California is as follows:

Table 11 **Outlook for Full-Time Enrollments in Public Junior Colleges in New York State and in California**

	New York			
Year	Alternative I	Alternative II	Alternative III	California
1959 (actual)	16,000	16,000	16,000	90,000
1965	39,000	45,000	52,000	163,000
1970	60,000	72,000	84,000	205,000
1975	82,000	96,000	111,000	251,000
1980	100,000	121,000	138,000	not projected

These public junior college figures are for full-time students only. Part-time enrollments will be in addition.

C. Geographic Distribution of the Increase in Students

CONCLUSION: By 1975 the increase in full-time undergraduate students who reside in the New York City metropolitan area (broadly defined to include, besides the New York City boroughs, the counties of Nassau, Suffolk, Westchester and Rockland) can reasonably be expected to be no less than 140 per cent. Even greater percentage increases can be expected in other parts of the State; in the Rochester area, for example, a 215 per cent increase between 1959 and 1975 may be expected.

FURTHER DETAILS: In 1959 about 57 per cent of the full-time undergraduate students in New York State lived in the New York City metropolitan area, broadly defined. This percentage is not expected to change substantially by 1975, by which time some 248,000 students may be expected to be residents of the city and its suburbs. The figures, derived by projecting recent trends in the various parts of the State, are as follows:

Table 12 **Full-Time Undergraduate Enrollments in New York State Colleges and Universities Classified by Areas of Residence of Students—1959 and 1975**

Item	Number		Percentage	
	1959	1975 Estimated	1959	1975 Estimated
New York State students residing in:				
New York City metropolitan area*	102,800	248,100	57%	58%
Albany, Buffalo, Rochester and Syracuse areas	29,800	85,000	17	20
Remainder of the State	16,700	45,200	9	10
Out-of-state students attending New York colleges and universities	31,600	50,900	17	12
Total	**180,900**	**429,200**	**100%**	**100%**

*Includes New York City, Nassau, Suffolk, Westchester and Rockland Counties.

These estimates assume that out-of-state students enrolling in New York colleges and universities, while growing in number, will be a smaller percentage of the total in 1975 than now. They assume also that the rate of growth in the number of high school graduates and the proportion going to college in the various parts of the State will increase in accordance with trends noted in recent years. A summary table showing percentage increases, 1959-75, for various areas of the State, follows:

Table 13 **Percentage Increase 1959 to 1975 in Full-Tim Undergraduate Enrollments in New York State Colleges and Universities by Areas of Residence of Students**

Item	Number		Percentage Increase
	1959	1975 Estimated	
New York State students residing in:			
New York City metropolitan area*	102,800	248,100	141
Buffalo area	12,100	33,000	173
Rochester area	7,200	22,700	215
Syracuse area	5,300	15,000	183
Albany area	5,200	14,300	175
Mid-Hudson area	4,000	12,600	215
Mohawk Valley area	3,100	8,100	161
Binghamton area	2,700	7,000	159
Northern area	2,700	7,000	159
Elmira area	2,200	5,500	150
Southwest area	2,000	5,000	150
Subtotal	149,300	378,300	153
Out-of-state students attending New York colleges and universities	31,600	50,900	61
Total enrollments in New York colleges and universities	**180,900**	**429,200**	**137**

*Includes New York City, Nassau, Suffolk, Westchester and Rockland Counties.

The foregoing figures are for full-time undergraduate students only. The number of part-time students and graduate students may be expected to increase also, more than proportionately in the New York City area and other urban locations, and less than proportionately elsewhere.

D. Future Requirements for Trained Manpower in New York State

CONCLUSION: In the next 15 years New York will have to educate in colleges and universities over a million workers to meet the needs for professional and technical manpower alone, and an additional number for the large and growing fields of management and technical sales. (Source: United States Department of Labor.)

FURTHER DETAILS: The total number of jobs in New York State exceeds 7½ million at the present time and can be expected to rise to more than 9 million by 1975. At this level about 3½ million jobs will be held by professional and technical personnel, managers, officials and proprietors, craftsmen, foremen, and kindred workers. (These are United States Labor Department classifications.) A large proportion of these people will be college trained.

During the next 15 years more than 2 million of these 3½ million jobs will be filled by "new" people—that is, people entering these jobs because of industrial expansion, death or retirement of present job holders, or as the result of present job holders shifting to other occupations or leaving the labor force altogether. A rough estimate we prepared for 1960 to 1975 (based on 1957-70 figures prepared by the New York State Department of Labor) distributes the 2 million new workers as follows:

Table 14 **Jobs to be Filled by New Workers in Professional and Skilled Occupations in New York State Between 1960 and 1975**

Category	Source of New Job			Total
	Industrial Expansion	Death or Retirement of a 1960 Job Holder	Shift to Other Occupation by a 1960 Job Holder	
Professional, technical and kindred workers	425,000	300,000	175,000	900,000
Managers, officials and proprietors	180,000	270,000	110,000	560,000
Craftsmen, foremen and kindred workers	210,000	280,000	210,000	700,000
Total	**815,000**	**850,000**	**495,000**	**2,160,000**

There can be no doubt but that a very large proportion of the "new" holders of these two million jobs will be college trained—not all will go to college for four years, but certainly many will attend for a substantial period.

In addition to the workers mentioned above, a significant, though smaller, proportion of job holders classified by the Labor Department as clerical, sales workers, operatives, and service personnel can be expected to have some college training. Included in these categories (in which two to three million jobs will be filled by "new" workers by 1975) will be college students holding part-time positions, college-trained secretarial workers, and clerical workers in banks, insurance companies, brokerage offices and other financial institutions, accounting firms, legal offices, real estate firms, head offices of national corporations, and other workers in jobs not ordinarily "requiring" a college education but in which college training frequently permits more rapid advancement.

E. Ability to Finance Higher Education

CONCLUSION: In the years ahead, the people of New York State can expect to have a greatly expanded amount of personal income out of which to pay for higher education. Using a set of reasonable assumptions on economic growth, we estimate that the gross income of individuals in New York State can hardly be less than $90 billion in 1975, compared with $45 billion in 1959.

FURTHER DETAILS: In 1959 the gross personal income of all persons in the State of New York amounted to $45 billion, according to the United States Department of Commerce. At this level, it was approximately 11.8 per cent of the national total of personal income. The percentage relationship between the national total and New York's share of personal income has remained relatively constant since 1951, averaging 11.7 per cent as shown below:

Table 15 **Gross Personal Income, United States and New York State—1951 to 1959**

Year	United States	New York	New York as a Percentage of Total United States
	(In billions)		
1951	$256.7	$30.2	11.8
1952	273.1	31.7	11.6
1953	288.3	33.3	11.5
1954	289.8	34.2	11.8
1955	310.2	36.5	11.8
1956	332.9	39.0	11.7
1957	351.4	41.1	11.7
1958	360.3	42.2	11.7
1959	383.3	45.1	11.8
1951-59 (average)			11.7

The gross personal income in New York State is a rough measure of the "total" out of which expenditures for higher education can be financed. It consists of the aggregate income received by all individuals from all sources, including wages and salaries, incomes from unincorporated businesses, rents, dividends and interest. It includes also such government payments to individuals as social security, unemployment insurance and veterans' benefits. This "total" is computed without any deductions for the payment of federal, state or local taxes and is used as a basis for our comparisons because part of the expenditures for higher education is financed by governmental units out of taxes paid to them by individuals.

In 1970 the gross personal income of the entire United States can be expected to be about $633 billion and in 1976 about $807 billion, according to the National Planning Association, an organization long known for careful and reliable estimates of economic trends. If New York maintains its 11.7 per cent average share by taking such actions as are necessary educationally, industrially and commercially, the personal income of its residents for 1976 would be $94 billion. The figures, including an interpolation of $91 billion for 1975 (a year used for enrollments and other statistics in this report) are in the table that follows:

Table 16 **Gross Personal Income, United States and New York State—1959 to 1976**
(In 1959 constant dollars)

Year	Source of Estimates for United States as a Whole	United States Total	Estimate for New York State	New York as a Percentage* of the United States Total
		In billions		
1959	Department of Commerce	$383	$45	11.8
1970	National Planning Association	633	74	11.7
1975	Our interpolation	775	91	11.7
1976	National Planning Association	807	94	11.7

*Based on unrounded figures

The National Planning Association's estimates are described in detail in publications of that organization and need not be documented here. However, it may be noted that N. P. A. assumes in its projections that there will be reasonably full employment in the economy (with unemployment at not more than 3½ per cent of the civilian labor force), an increase in productivity per worker, and a decline in the number of hours worked each week. Their pro-

jections involve a growth potential for the economy that averages 4.2 per cent a year, using 1955-57 as a base period.

This is a middle-of-the-road projection. The Committee for Economic Development, for example, projects a 3 per cent growth rate factor in a recent report, while the Joint Economic Committee of the Congress establishes three sets of assumptions involving growth rates of 4.2 per cent, 4.7 per cent and 5.2 per cent, respectively.

F. Expenditures for Higher Education—New York and Other States Compared

CONCLUSION: In 1957-58 New York spent $269 million for the teaching of students in public and private colleges and universities within the State. This amounted to $1,080 per full-time student equivalent and to 6/10 of one per cent of the gross personal income of all individuals in the State. New York ranked high in dollar expenditures but relatively low in tax money per capita spent on teaching students in its colleges and universities.

FURTHER DETAILS: Every two years colleges and universities send detailed reports of their receipts and expenditures to the United States Office of Education. Early in 1960, the Office made available to the National Planning Association preliminary tabulations for the school year 1957-58. From these tabulations the National Planning Association set forth *for the first time* the cost of teaching students in colleges and universities (including a pro rata share of overhead) separately from all the other expenditures commonly included in college and university accounts—such as expenditures on research contracts, housing and feeding students, running hotels and other commercial businesses, athletic events, engaging in community service work or extension work, and other nonteaching activities. It was then possible to compare expenditures on teaching in a number of states—in dollar amount and relative to personal income—as shown in the table that follows:

Table 17 **Expenditures for Teaching Students in All Public and Private Colleges and Universities in Selected States (Current Funds Only—1957-58)**

State	Total Expenditures	Expenditure per Full-Time Student Equivalent	Expenditures as a Percentage of Personal Income
	In millions		
California	$ 237	$ 830	0.7
Connecticut	41	1,228	0.6
Illinois	144	1,070	0.6
Indiana	67	925	0.7
Iowa	39	799	0.8
Massachusetts	114	1,119	1.0
Michigan	120	1,033	0.7
Minnesota	48	801	0.8
Missouri	52	796	0.6
New Jersey	47	908	0.3
NEW YORK	**269**	**1,080**	**0.6**
North Carolina	49	813	0.8
Ohio	114	910	0.6
Pennsylvania	136	913	0.6
Texas	100	638	0.6
Wisconsin	45	759	0.6
16 states, together	1,622	917	0.6
United States as a whole	2,364	879	—

Note: Includes teaching costs, departmental research and pro rata share of overhead only.

The comparisons were made for only sixteen states because of the considerable amount of work and expense that would have been involved in a fifty-state report. States included were those bordering on New York, other large industrial states, and states with large college-going populations. In the aggregate the sixteen states accounted for about two-thirds of all college and university enrollments in the United States in 1957-58 and 70 per cent of the expenditures for teaching.

The special study made it possible also to compare the "tax dollars" per capita and the percentage of personal income furnished by State and local governments for teaching students in colleges and universities and providing scholarships. (Note: New York has the largest "tax" expenditures for scholarships; several other states have substantial programs.) The figures are shown in the table that follows:

Table 18 "Tax Dollars" Furnished by State and Local Governments for Teaching Students in Colleges and Universities and Providing Scholarships in Selected States (Current Funds Only—1957-58)

State Involved	Total Amount	Amount Per Capita	Percentage of Personal Income
	In millions		
California	$205	$15.17	0.6
Michigan	91	11.82	0.5
NEW YORK	**87**	**5.41**	**0.2**
Illinois	78	8.08	0.3
Texas	68	7.61	0.4
Ohio	41	4.44	0.2
Indiana	38	8.55	0.4
Pennsylvania	37	3.32	0.2
Minnesota	34	10.12	0.5
Wisconsin	29	7.65	0.4
Iowa	29	10.29	0.6
North Carolina	23	5.16	0.4
Missouri	22	5.12	0.3
New Jersey	18	3.15	0.1
Connecticut	11	5.08	0.2
Massachusetts	11	2.39	0.1

Note: Excludes construction, research contracts, housing students, etc.

The great variations in the systems of higher education across the country and the diverse activities conducted by colleges and universities, many of which are important but tangent to the education of students, make it difficult to draw over-all conclusions from the usual interstate comparisons of higher education expenditures. In every case the comparisons are subject to many qualifications and to careful definitions of items which are included or excluded from the underlying figures. The study of the National Planning Association attempts to overcome some of these difficulties.

G. Salaries of Nurses and Other Women Employees Compared

CONCLUSION: In New York City and elsewhere in the State, salaries of nurses are frequently $400 to $800 a year less than the amounts paid to office workers with approximately the same length of training.

FURTHER DETAILS: In New York City general duty nurses with two years of collegiate training or three years of hospital-school training and having passed the State licensing examination were paid $3,700 to $4,250 a year for a forty-hour week early in 1960. Women office workers with two or three years on-the-job training (at full salary, it might be noted) were paid $4,100 to $5,050 on the average for a thirty-six hour week.

Practical nurses with one year of practical nursing training and having passed the State licensing examination were paid $2,750 to $3,250 in New York City, while women office workers with one year on-the-job training commanded salaries of $3,000 to $3,950 a year.

A similar relationship of salaries paid nurses and those paid women office workers with comparable periods of training exists in other parts of the State. Some examples based on reports of the United States Department of Labor, the New York State Nurses Association and a number of other agencies are in the table that follows:

Table 19 **Salaries Paid Nurses and Other Women Employees—Early 1960**

Nurses		Other Women Employees	
NEW YORK CITY		**NEW YORK CITY**	
General duty nurses at following hospitals		**Persons with two to three years training in following occupations**	
Flower Fifth	$3,720	Bookkeeping machine operator	$4,108
Bronx	3,744	Payroll clerk	4,160
Joint Diseases	3,800	Senior accounting clerk	4,576
Mt. Sinai	3,900	Private secretary	4,758
Presbyterian	3,900	Tabulating machine operator	5,044
St. Luke's	3,900		
State hospitals	4,234		
City hospitals	4,250		
Practical nurses at following hospitals		**Persons with one year training in following occupations**	
Flower Fifth	$2,760	Senior file clerk	$3,614
St. Luke's	3,060	Comptometer operator	3,822
Mt. Sinai	3,120	Stenographer	3,874
Roosevelt	3,120	Senior typist (manufacturing concerns)	3,952
City hospitals	3,250		
BUFFALO		**BUFFALO**	
General duty nurses at following hospital		**Persons with two to three years training in following occupations**	
Mercy	$3,588	Senior accounting clerk	$4,368
		Tabulating machine operator	4,368
		Private secretary	4,446
ALBANY AND TROY		**ALBANY AND TROY**	
General duty nurses at following hospitals		**Persons with two to three years training in following occupations**	
St. Peter's (Albany)	$3,380	Switchboard operator (manufacturing)	$4,056
Albany (Albany)	3,780	Senior accounting clerk	4,238
St. Mary's (Troy)	3,900	Private secretary	4,472
Samaritan (Troy)	3,900		

H. Earned Degree and Illustrative State Aid Schedules

The earned degrees expected to be awarded in 1961-62 by private colleges and universities in New York State eligible to receive State aid could provide the basis for a variety of alternative schedules of State aid. Three illustrative calculations which vary the amount per degree with the type of degree involved are shown in the table that follows:

Table 20 **Alternative Calculations of State Aid Based on Degrees Expected to be Awarded in 1961-62**

Number and Kind of Degree	Alternative A		Alternative B		Alternative C	
	Amount per Degree	Total Amount	Amount per Degree	Total Amount	Amount per Degree	Total Amount
940 doctors degrees in medicine and dentistry	$2,000	$1,880,000	$1,000	$940,000	$750	$ 705,000
1,650 other doctors degrees (including nursing and veterinary medicine)	1,000	1,650,000	850	1,402,000	500	825,000
13,000 masters degrees and professional degrees other than doctors degrees	300	3,900,000	300	3,900,000	275	3,575,000
25,000 bachelor of arts or science degrees (or degrees equivalent to these)	100	2,500,000	150	3,750,000	200	5,000,000
Total		**$9,930,000**		**$9,992,000**		**$10,105,000**

Note: The figures in this table are illustrative only.

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